

found an empty sea.

The *Ranger's* eighty-four crewmen, fifty-three of them Newfoundlanders and fourteen Americans, were lost. Twenty bodies were recovered after an intensive five-day search, and divers in two, one-man submarines found the *Ranger* upside down in 265 feet of water, 300 feet east of the well it was drilling.

(The loss of life aboard the *Ranger* was the second greatest in offshore drilling history. The worst disaster occurred in March, 1980, 175 miles off Norway, when hurricane winds overturned a giant floating dormitory, killing 123 crewmen.)

Since the *Ranger* was registered as an American-flag vessel and operating in Canadian waters, both countries are conducting inquiries into the causes of the disaster. Preliminary investigations show that winds buffeting the rig rose from fifty to eighty-five or ninety knots in half an hour, a severe but not an unprecedented stress.

When North Atlantic Oil Is Ready to Flow

Shell will be drilling off Nova Scotia and Newfoundland and Mobil, in cooperation with Petro-Canada, Gulf, Chevron and Columbia, is active in the Hibernia field and adjacent areas.

Commercial production is expected to begin in Canada's North Atlantic around 1988, and when it does, the drilling ships and rigs will be replaced with submerged production systems.

The producing wells would be connected to a manifold on the ocean floor and the oil and gas sent through pipelines and risers to a tanker or terminal on the surface. A maintenance robot, kept on a workboat, could be lowered to the production system when needed. It would run around on a track and be able to make repairs and adjustments spotlighted by TV camera monitors.



Mobil's Sedco 709.